

Exhibit B



C O R P O R A T I O N S E R V I C E C O M P A N Y

Notice of Service of Process

null / ALL
Transmittal Number: 12385731
Date Processed: 04/07/2014

Primary Contact: Rosemarie Williams
General Motors LLC
Mail Code 48482-038-210
400 Renaissance Center
Detroit, MI 48265

Entity:	General Motors LLC Entity ID Number 3113523
Entity Served:	General Motors LLC
Title of Action:	Elliott Lawrence M.; Elliott Celestine V. vs. General Motors, LLC
Document(s) Type:	Summons/Complaint
Nature of Action:	Other
Court/Agency:	Superior Court, District Of Columbia
Case/Reference No:	14-0001980
Jurisdiction Served:	District Of Columbia
Date Served on CSC:	04/04/2014
Answer or Appearance Due:	20 Days
Originally Served On:	CSC
How Served:	Regular Mail
Sender Information:	Lawrence Elliott (Washington, DC) Not Shown
Client Requested Information:	Year: Make: Model: VIN:

Notes: Lawrence Elliott Celestine Elliott 620 Nicholson Street, NW Washington, DC 20011
CSC Location document was served: Corporation Service Company 1090 Vermont Ave N.W. Washington, DC 20005

Information contained on this transmittal form is for record keeping, notification and forwarding the attached document(s). It does not constitute a legal opinion. The recipient is responsible for interpreting the documents and taking appropriate action.

To avoid potential delay, please do not send your response to CSC
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**SUPERIOR COURT OF THE DISTRICT OF COLUMBIA
CIVIL DIVISION**

Lawrence Elliott et al

Plaintiff(s)

v.

Case No: 2014 CA 1980 B

GENERAL MOTORS LLC

Defendant(s)

NOTICE

To (insert name and address of the party to be served):

GENERAL MOTORS LLC

Serve. Corporation Service Company

1090 Vermont Avenue, NW

Washington, DC 20005

The enclosed summons, complaint and initial order are served pursuant to Rule 4(c)(4) of the Superior Court Rules of Civil Procedure.

You must sign and date the Acknowledgement (below). If you are served on behalf of a corporation, unincorporated association (including a partnership), or other entity, you must indicate next to your signature your relationship to that entity. If you are served on behalf of another person and you are authorized to receive process, you must indicate next to your signature your authority.

If you do not complete and return the form to the sender within twenty (20) days after it has been mailed, you (or the other party on whose behalf you are being served) may be required to pay any expenses incurred in serving a summons, complaint and initial order in any other manner permitted by law.

If you do complete and return this form, you (or the other party on whose behalf you are being served) must answer the complaint within twenty (20) days after you have signed, dated and returned the form. If you fail to do so, judgment by default may be entered against you for the relief demanded in the complaint.

This Notice and Acknowledgment of Receipt of Summons, Complaint and Initial Order was mailed on (insert date): 4/2/14.

Signature

4/2/14
Date of Signature

ACKNOWLEDGMENT OF RECEIPT OF SUMMONS, COMPLAINT, AND INITIAL ORDER

I (print name) _____ received a copy of the summons, complaint and initial order in the above captioned matter at (insert address): _____

Signature

Relationship to Defendant/Authority to Receive Service Date of Signature



**SUPERIOR COURT OF THE DISTRICT OF COLUMBIA
CIVIL DIVISION**

LAWRENCE ELLIOTT et al
Vs.
GENERALO MOTORS LLC

C.A. No. 2014 CA 001980 B

INITIAL ORDER AND ADDENDUM

Pursuant to D.C. Code § 11-906 and District of Columbia Superior Court Rule of Civil Procedure ("SCR Civ") 40-I, it is hereby **ORDERED** as follows:

(1) Effective this date, this case has assigned to the individual calendar designated below. All future filings in this case shall bear the calendar number and the judge's name beneath the case number in the caption. On filing any motion or paper related thereto, one copy (for the judge) must be delivered to the Clerk along with the original.

(2) Within 60 days of the filing of the complaint, plaintiff must file proof of serving on each defendant: copies of the Summons, the Complaint, and this Initial Order. As to any defendant for whom such proof of service has not been filed, the Complaint will be dismissed without prejudice for want of prosecution unless the time for serving the defendant has been extended as provided in SCR Civ 4(m).

(3) Within 20 days of service as described above, except as otherwise noted in SCR Civ 12, each defendant must respond to the Complaint by filing an Answer or other responsive pleading. As to the defendant who has failed to respond, a default and judgment will be entered unless the time to respond has been extended as provided in SCR Civ 55(a).

(4) At the time and place noted below, all counsel and unrepresented parties shall appear before the assigned judge at an Initial Scheduling and Settlement Conference to discuss the possibilities of settlement and to establish a schedule for the completion of all proceedings, including, normally, either mediation, case evaluation, or arbitration. Counsel shall discuss with their clients prior to the conference whether the clients are agreeable to binding or non-binding arbitration. This order is the only notice that parties and counsel will receive concerning this Conference.

(5) Upon advice that the date noted below is inconvenient for any party or counsel, the Quality Review Branch (202) 879-1750 may continue the Conference once, with the consent of all parties, to either of the two succeeding Fridays. Request must be made not less than six business days before the scheduling conference date. No other continuance of the conference will be granted except upon motion for good cause shown.

(6) Parties are responsible for obtaining and complying with all requirements of the General Order for Civil cases, each Judge's Supplement to the General Order and the General Mediation Order. Copies of these orders are available in the Courtroom and on the Court's website <http://www.dccourts.gov/>.

Chief Judge Lee F. Satterfield

Case Assigned to: Judge CRAIG ISCOE

Date: April 1, 2014

Initial Conference: 9:30 am, Friday, July 18, 2014

Location: Courtroom 200

500 Indiana Avenue N.W.
WASHINGTON, DC 20001

Caio.doc

**ADDENDUM TO INITIAL ORDER AFFECTING
ALL MEDICAL MALPRACTICE CASES**

In accordance with the Medical Malpractice Proceedings Act of 2006, D.C. Code § 16-2801, et seq. (2007 Winter Supp.), "[a]fter an action is filed in the court against a healthcare provider alleging medical malpractice, the court shall require the parties to enter into mediation, without discovery or, if all parties agree[,] with only limited discovery that will not interfere with the completion of mediation within 30 days of the Initial Scheduling and Settlement Conference ("ISSC"), prior to any further litigation in an effort to reach a settlement agreement. The early mediation schedule shall be included in the Scheduling Order following the ISSC. Unless all parties agree, the stay of discovery shall not be more than 30 days after the ISSC." D.C. Code § 16-2821.

To ensure compliance with this legislation, on or before the date of the ISSC, the Court will notify all attorneys and *pro se* parties of the date and time of the early mediation session and the name of the assigned mediator. Information about the early mediation date also is available over the internet at <https://www.dccourts.gov/pa/>. To facilitate this process, all counsel and *pro se* parties in every medical malpractice case are required to confer, jointly complete and sign an EARLY MEDIATION FORM, which must be filed no later than ten (10) calendar days prior to the ISSC. Two separate Early Mediation Forms are available. Both forms may be obtained at www.dccourts.gov/medmalmediation. One form is to be used for early mediation with a mediator from the multi-door medical malpractice mediator roster; the second form is to be used for early mediation with a private mediator. Both forms also are available in the Multi-Door Dispute Resolution Office, Suite 2900, 410 E Street, N.W. Plaintiff's counsel is responsible for eFiling the form and is required to e-mail a courtesy copy to earlymedmal@dcsc.gov. *Pro se* Plaintiffs who elect not to eFile may file by hand in the Multi-Door Dispute Resolution Office.

A roster of medical malpractice mediators available through the Court's Multi-Door Dispute Resolution Division, with biographical information about each mediator, can be found at www.dccourts.gov/medmalmediation/mediatorprofiles. All individuals on the roster are judges or lawyers with at least 10 years of significant experience in medical malpractice litigation. D.C. Code § 16-2823(a). If the parties cannot agree on a mediator, the Court will appoint one. D.C. Code § 16-2823(b).

The following persons are required by statute to attend personally the Early Mediation Conference: (1) all parties; (2) for parties that are not individuals, a representative with settlement authority; (3) in cases involving an insurance company, a representative of the company with settlement authority; and (4) attorneys representing each party with primary responsibility for the case. D.C. Code § 16-2824.

No later than ten (10) days after the early mediation session has terminated, Plaintiff must eFile with the Court a report prepared by the mediator, including a private mediator, regarding: (1) attendance; (2) whether a settlement was reached; or, (3) if a settlement was not reached, any agreements to narrow the scope of the dispute, limit discovery, facilitate future settlement, hold another mediation session, or otherwise reduce the cost and time of trial preparation. D.C. Code § 16-2826. Any Plaintiff who is *pro se* may elect to file the report by hand with the Civil Clerk's Office. The forms to be used for early mediation reports are available at www.dccourts.gov/medmalmediation.

Chief Judge Lee F. Satterfield



**Superior Court of the District of Columbia
CIVIL DIVISION**

500 Indiana Avenue, N.W., Suite 5000
Washington, D.C. 20001 Telephone: (202) 879-1133

LAWRENCE SWEET Plaintiff

v5.

Case Number 14 - 0001980

General Motors LLC Defendant

SUMMONS

To the above named Defendant:

You are hereby summoned and required to serve an Answer to the attached Complaint, either personally or through an attorney, within twenty (20) days after service of this summons upon you, exclusive of the day of service. If you are being sued as an officer or agency of the United States Government or the District of Columbia Government, you have sixty (60) days after service of this summons to serve your Answer. A copy of the Answer must be mailed to the attorney for the party plaintiff who is suing you. The attorney's name and address appear below. If plaintiff has no attorney, a copy of the Answer must be mailed to the plaintiff at the address stated on this Summons.

You are also required to file the original Answer with the Court in Suite 5000 at 500 Indiana Avenue, N.W., between 8:30 a.m. and 5:00 p.m., Mondays through Fridays or between 9:00 a.m. and 12:00 noon on Saturdays. You may file the original Answer with the Court either before you serve a copy of the Answer on the plaintiff or within five (5) days after you have served the plaintiff. If you fail to file an Answer, judgment by default may be entered against you for the relief demanded in the complaint.

Lawrence Elliott / Celeste Elliott
Name of Plaintiff's Attorney

Name of Plaintiff's Attorney

1200 Richards Street, v.v.

Washington, DC 20011

Clerk of the Court

Deputy Clerk

By

Date

Telephone

如需翻译 请打电活 (202) 879-4828

Veuillez appeler au (202) 879-4828 pour une traduction

Để có một bài dịch, hãy gọi (202) 879-4828

법원을 원하시면 (202) 879-4828 를 전화주시시오

卷之三

IMPORTANT: IF YOU FAIL TO FILE AN ANSWER WITHIN THE TIME STATED ABOVE, OR IF, AFTER YOU ANSWER, YOU FAIL TO APPEAR AT ANY TIME THE COURT NOTIFIES YOU TO DO SO, A JUDGMENT BY DEFAULT MAY BE ENTERED AGAINST YOU FOR THE MONEY DAMAGES OR OTHER RELIEF DEMANDED IN THE COMPLAINT. IF THIS OCCURS, YOUR WAGES MAY BE ATTACHED OR WITHHELD OR PERSONAL PROPERTY OR REAL ESTATE YOU OWN MAY BE TAKEN AND SOLD TO PAY THE JUDGMENT. IF YOU INTEND TO OPPOSE THIS ACTION, DO NOT FAIL TO ANSWER WITHIN THE REQUIRED TIME.

If you wish to talk to a lawyer and feel that you cannot afford to pay a fee to a lawyer, promptly contact one of the offices of the Legal Aid Society (202-628-1161) or the Neighborhood Legal Services (202-682-2700) for help or come to Suite 5000 at 500 Indiana Avenue, N.W., for more information concerning places where you may ask for such help.

**See reverse side for Spanish translation
Vea al dorso la traducción al español**



**TRIBUNAL SUPERIOR DEL DISTRITO DE COLUMBIA
DIVISIÓN CIVIL**

500 Indiana Avenue, N.W., Suite 5000
Washington, D.C. 20001 Teléfono: (202) 879-1133

Demandante

G A O T O O Q T A Y contra

Número de Caso:

Demandado

CITATORIO

Al susodicho Demandado:

Por la presente se le cita a comparecer y se le require entregar una Contestación a la Demanda adjunta, sea en persona o por medio de un abogado, en el plazo de veinte (20) días contados después que usted haya recibido este citatorio, excluyendo el día mismo de la entrega del citatorio. Si usted está siendo demandado en calidad de oficial o agente del Gobierno de los Estados Unidos o de Norteamérica o del Gobierno del Distrito de Columbia, tiene usted sesenta (60) días contados después que usted haya recibido este citatorio, para entregar su Contestación. Tiene que enviarle por correo una copia de su Contestación al abogado de la parte demandante. El nombre y dirección del abogado aparecen al final de este documento. Si el demandado no tiene abogado, tiene que enviarle al demandante una copia de la Contestación por correo a la dirección que aparece en este Citatorio.

A usted también se le require presentar la Contestación original al Tribunal en la Oficina 5000, sito en 500 Indiana Avenue, N.W., entre las 8:30 a.m. y 5:00 p.m., de lunes a viernes o entre las 9:00 a.m. y las 12:00 del mediodía los sábados. Usted puede presentar la Contestación original ante el Juez ya sea antes que Usted le entregue al demandante una copia de la Contestación o en el plazo de cinco (5) días de haberle hecho la entrega al demandante. Si usted incumple con presentar una Contestación, podría dictarse un fallo en rebeldía contra usted para que se haga efectivo el desagravio que se busca en la demanda.

SECRETARIO DEL TRIBUNAL

Nombre del abogado del Demandante

Por

Subsecretario

Dirección

Fecha

Teléfono

如需翻译,请打电话 (202) 879-4828

Veuillez appeler au (202) 879-4828 pour une traduction

Để có một bài dịch, hãy gọi (202) 879-4828

번역을 원하시면, (202) 879-4828로 전화 주십시오

РУЧНОЙ ТЕЛЕФОН (202) 879-4828

IMPORTANTE: SI USTED INCUMPLE CON PRESENTAR UNA CONTESTACIÓN EN EL PLAZO ANTES MENCIONADO, O SI LUEGO DE CONTESTAR, USTED NO COMPARÉCE CUANDO LE AVISE EL JUZGADO, PODRÍA DICTARSE UN FALLO EN REBELDÍA CONTRA USTED PARA QUE SE LE COBRE LOS DAÑOS Y PERJUICIOS U OTRO DESAGRAVIO QUE SE BUSQUE EN LA DEMANDA. SI ESTO OCURRE, PODRÍAN RETENERLE SUS INGRESOS, O PODRÍAN TOMAR SUS BIENES PERSONALES O RAÍCES Y VENDERLOS PARA PAGAR EL FALLO. SI USTED PRETENDE OPONERSE A ESTA ACCIÓN, NO DEJE DE CONTESTAR LA DEMANDA DENTRO DEL PLAZO EXIGIDO.

Si desea conversar con un abogado, y le parece que no puede afrontar el costo de uno, llame pronto a una de nuestras oficinas del Legal Aid Society (202-628-1161) o el Neighborhood Legal Services (202-682-2700) para pedir ayuda o venga a la Oficina 5000, del 500 Indiana Avenue, N.W., para informarse de otros lugares donde puede pedir ayuda al respecto.

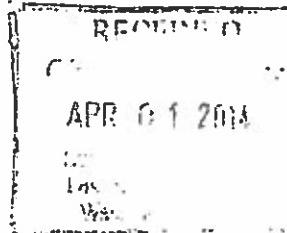
Vea al dorso el original en inglés

See reverse side for English original

SUPERIOR COURT OF THE DISTRICT OF COLUMBIA

CIVIL DIVISION-CIVIL ACTIONS BRANCH

Lawrence M. Elliott
Celestine V. Elliott, et al
620 Nicholson Street NW
Washington, DC 20011-2020



Plaintiffs

14-0001980

Civil Action No. _____

General Motors LLC

Defendant

Serve:

Corporation Service Company
1090 Vermont Avenue, NW
Washington, DC 20005

Lawrence M. Elliott and Celestine V. Elliott, husband and wife for many years and family hereafter called WE, come before this Honorable Court for justice in a matter dealing with General Motors Corp. hereafter known as GMC . We are asking for the original cost plus all interest paid for the 2006 Trailblazer SS and the Chevy Cobalt SS about eighty thousand dollars (\$80,000.00) and five hundred thousand dollars (\$500,000.00) for punitive damages both bought new from Curtis Chevrolet located in Washington, DC, now no longer in existence. Five hundred eighty thousand dollars (\$580,000.00).

We are also asking for immediate relief in this matter forthwith in the form of two vehicles provided by GMC at their expense for our transportation until this issue is resolved. WHY? If GMC replaced the fuel pump in our Cobalt SS with the same design that split open, it could happen again with catastrophic results, such as the lose of life and/or serious injury. GMC should be made to declare what was used by this Court ,as soon as possible, so no one will be put in danger. This may well be another recall before someone has to die first or be hurt. We had no idea that we would find both by failure of major systems and other problems that GMC knew of. This problem that could have killed us or still others should be addressed immediately. GMC should be stopped from using old part numbers after fixed issues because it keeps one from knowing if it is the broken one and is safe to use. This was found to be what they did and has been documented. First the Cobalt was known to have problems with the ELECTRIC POWER STEERING that could render the car incapable of being steered or the air bags from deploying. This was fixed under a recall #10V073000.

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Civil Action No.

While driving the Cobalt we had a strong odor of gasoline that was first thought to be from another vehicle or place. What we found upon close inspection for the source, was a gasoline leak that was from the bottom of the car. It left a puddle on the ground. It was weeks after it started since in the beginning it was not constant. This was very serious. When I researched it I found it had been known for some time by GMC, but was recklessly only stated by GMC after I called them and found it on the WEB.

I found they were only going to fix it if happened in States other than ours. I raised this with GMC and they fixed it by replacing the fuel pump assembly. Recall #09V419000. I saw the part they took from the car and was shocked to find that they had made it of what appeared to be plastic that had developed a split in it. The fuel pump assembly is no place to cut corners. (See attachment 1)

Look at the temperature the Catalytic Convertor Muffler operates at and how close it is to the leak.

Temperature as high as above 1000 degrees C. (Attachments 2, 3, 4, and 5) IF

~~THEY REPLACED THE FUEL PUMP ASSEMBLY WITH THE SAME ONE THAT SPLIT.~~

~~THAT IS CRIMINAL BEHAVIOR AND SHOULD BE YET ANOTHER RECALL. Look at the door lock complaints that did not let one leave the car except through the window (Cobalt).~~

Another complaint.

Even though they say the key lock has been recalled (not until we get the parts) is it a recall.

The key turned the ignition off under many conditions in the Cobalt SS, (the ignition switch was also found to split at times and turn the run cycle to the accessory cycle). The accessory cycle does not have the Air Bags or many features that the Run position supports. They used the same

page 3

Civil Action No.

part number so how are we to know which is the replacement and which is the old defective one. This turns the air bags and steering (OFF) both of which are controlled electrically, which is how it kills.

According to what is in the public arena they knew this as early as 2002. It is now 2014. To make matters worse, they did not change the part number so you would not know if you were getting or buying the same defect.

The chrome on the door knobs is bubbling off.

The paint on th arm rest on the door is peeling off almost all looks bad and cheap.

All of the above and possibly more was reckless, fraudulent, wanton, inexcusable and unlawful to say the least. This is why we are bringing the Law Suit. No one (GMC) should ever be permitted to keep one cent under these conditions and should be by any Honorable Court made to pay

punitive damages as well as a deterrent that will send a message around the world. Further if, this

Honorable Court does justice in this case, we should not be kept silent as a matter of settlement.

This very often is done as a part of Settlements. We have to become more humane.

Our Trailblazer SS (SUV) is unsafe to drive. The Trailblazer SS is showing excessive rust, although we live in an area that has not bad that much snow since WE bought it. Many of the critical electrical components that determines how and if the vehicle runs are grounded by a wire from the component ending with a connector to a ground to the body in a rusting environment.

(screw, a washer into a thin piece of body sheet metal) When the electrical components of the various systems lose the integrity of ground , they do not operate correctly.

ground, they do not operate correctly). I have a PO121 fault OBD light on that happened just

page 4

Civil Action No.

after the SUV cut off on my wife while she was driving twice in less than a few blocks. This reads the throttle position that tell the brain (ECM) what the gas peddle position (throttle plate) is.
Wrong message, wrong outcome. This is probably why it cut off and has run so erratic since.

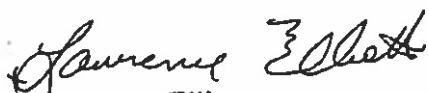
All of the emission components depend on sound connections. The throttle position sensor error

Code PO121 may be a ground issue from rust. GMC carefully stated they were only going to warrant for rust if it was ALL the way through. If this is legal, then GMC should have said when the vehicle stars to rust junk it for it will no longer be reliable. This caused her to loose all of her control of the vehicle. We have kept the family and children out of the vehicle since. Our daughter who lives with us has borrowed our neighbor's truck to carry the children, for fear of hurting or possibly killing them. The weather has been too cold for us to check it further.

Considering how deceptive GMC has been, I cannot trust them to touch the vehicle, this is why its use has been very limited. The rust we found is unacceptable.

My wife and I are CDL drivers, which may have been how she was able to survive this mess. We have been professional drivers for over forty years with many miles of experience.

Respectfully submitted,


Lawrence Elliott


Celestine Elliott

SUPERIOR COURT OF THE DISTRICT OF COLUMBIA
CIVIL DIVISION

Celestine Elliott
(Plaintiff(s))

v.

General Motors LLC
(Defendant(s))

Case No. _____

This form supplements Complaint and is being filed along with that document
(list title of pleading, motion, or other document)

(a) If Executed Inside the United States:

I declare (certify, verify, or state) under penalty of perjury that the foregoing is true and correct.

Executed on 15 day of April, 2014.
(date) (month) (year)

Celestine Elliott
Printed Name

Celestine Elliott
Signature

Washington, DC
City and State, or Other Location

202-744-3558
Phone Number

See D.C. CODE § 22-2402 (a)(3) (2010).

(b) If Executed Outside the United States:

I declare under penalty of perjury under the law of the District of Columbia that the foregoing is true and correct, and that I am physically located outside the geographic boundaries of the United States, Puerto Rico, the United States Virgin Islands, and any territory or insular possession subject to the jurisdiction of the United States. Executed on day of , ,

(date) (month) (year)
at
(city or other locations, and state) (country)

Printed Name

Signature

Phone Number

See D.C. CODE § 16-5306 (2010).

Note: This form may be attached to any document to be used in place of sworn written declarations, verifications, certificates, statements, oaths, or affidavits unless otherwise provided by law; for example, this form may not be used to supplement a verified complaint in the Landlord and Tenant Branch or Small Claims Branch. See D.C. Code §§ 16-1501.3902 (2001).



**SUPERIOR COURT OF THE DISTRICT OF COLUMBIA
CIVIL DIVISION**

Lawrence Elliott
Plaintiff(s)

Plaintiff(s)

Case No: _____

General Motors LLC
Defendant(s)

Defendant(s)

This form supplements COUNTERCLAIM and is being filed along with that document (list title of pleading, motion, or other document)

(a) If Executed Inside the United States:

I declare (certify, verify, or state) under penalty of perjury that the foregoing is true and correct.

Lawrence Elliott
Preferred Name

Printed Name

Lawrence Elliott
Signature

Washington, DC
City and State, or Other Location

Y202-744-5443
Phone Number

See D.C. Code § 22-2402 (a)(3) (2010).

(b) If Executed Outside the United States:

I declare under penalty of perjury under the law of the District of Columbia that the foregoing is true and correct, and that I am physically located outside the geographic boundaries of the United States, Puerto Rico, the United States Virgin Islands, and any territory or insular possession subject to the jurisdiction of the United States. Executed on _____ day of _____.

Subject to the jurisdiction of the United States. Executed on day of (date) (month) (year)

at _____, _____
(city or other locations, and state) (country)

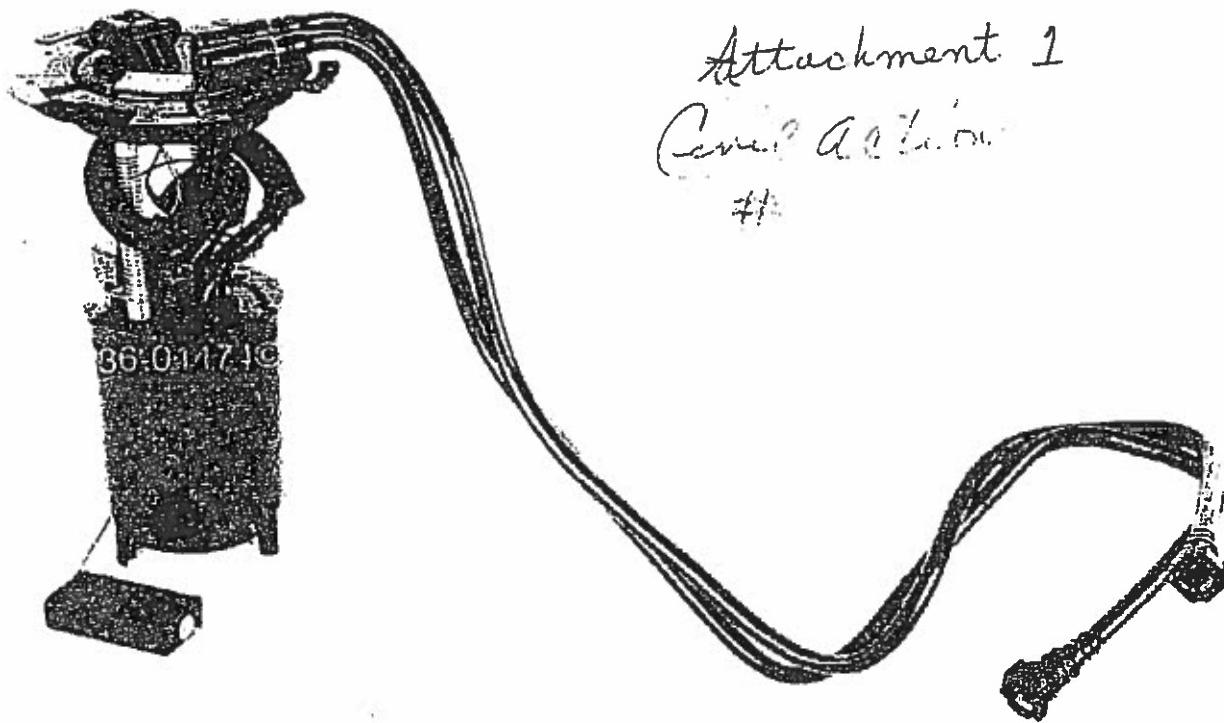
Printed Name

Signature

Phone Number

See D.C. Code § 16-5306 (2010).

Note: This form may be attached to any document to be used in place of sworn written declarations, verifications, certificates, statements, oaths, or affidavits unless otherwise provided by law; for example, this form may not be used to supplement a verified complaint in the Landlord and Tenant Branch or Small Claims Branch. See D.C. Code §§ 16-1501, 3902 (2001).



Attachment 1

Car. # A 03.01.

#1

Sent to you via
Email

BUYAUTOPARTS

Brand New \$205 \$202.95

Part Number:

• OEM No. \$275.00

BuyAutoParts.com - Your Source for Quality Auto Parts

85

Part Number:

Attachment # 2

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eHow > Cars > Driving & Safety > Driving Safety > The Dangers of a Catalytic Converter

The Dangers of a Catalytic Converter

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Since 1975 most cars have included catalytic converters, which remove the most dangerous pollutants from engine exhaust before it is passed to the muffler and out the tailpipe. They do this by passing the exhaust through many clay sheets containing platinum and rhodium. The pollutants bond to these elements and react to form less dangerous molecules which are then emitted. There are several dangers associated with catalytic converters, all of which are avoidable.

Other People Are Reading



Burns

Catalytic converters get very hot when a car is running, with their exteriors reaching temperatures of 800 to 1,000 degrees F when the engine is working under extremely heavy load conditions. If the car has a partial failure in its ignition system, unburned fuel will reach the converter and push temperatures into the 1,200 to 1,400 F degree range. This presents a clear danger to anyone working underneath the vehicle. To avoid being severely burned, always allow a catalytic converter time to cool before working on it or on anything near it. As a relatively dense structure, it will take longer to cool than other parts of the car.

Fire

The heat produced by a catalytic converter can be enough to ignite dry tinder. In most cases this only happens when a misfiring spark plug or fuel injector results in unburnt fuel reaching the converter. The converter burns the fuel off, raising the temperature high enough to be a fire risk. Never park a car over any dry leaves or brush, as these could be lit on fire by this heat. Be careful not to spray undercoating on the converter, as this could also ignite under high heat conditions and damage the vehicle.

Carbon Monoxide

Catalytic converters remove carbon monoxide, a potentially deadly gas, from car exhaust. If the converter is clogged it may not fully accomplish this. A catalytic converter also must warm up before it starts to work, meaning that even cars equipped with one should never be started in enclosed spaces or household garages. The gas is colorless and odorless, making it a danger to anyone.

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—Sierra Club



eHow > Cars > Auto Repair > Mufflers > How Hot Does a Catalytic Converter Get?

How Hot Does a Catalytic Converter Get?

By Michael K. Cheek Contributed

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Share

The catalytic converter is an important component of a modern vehicle exhaust system. It uses the catalytic action of precious metals to convert combustion pollutants into naturally occurring gases, reducing emissions of hydrocarbons, nitrogen oxides and carbon monoxide to low levels. [\[Read question from a reader from a mechanic here\]](#)

Other People Are Reading


[How To Tell If a Catalytic Converter Needs to Be Replaced](#)

[Is There an Easy Way to Unplug a Catalytic Converter? Does It Have to Be Replaced?](#)

Two Important Design Parameters

The minimum temperature at which a catalytic converter begins to function, called the light-off temperature, is 600-700 degrees F.

Vehicle manufacturers usually minimize the distance between the engine and catalytic converter. This reduces the time required for the converter to reach operating temperature, which in turn reduces cold-start emissions.

Normal Temperatures and Beyond

The ideal operating temperature range of catalytic converters is 900-1,000 degrees F, although they can, and often do, operate above this range.

However, when a converter operates above 1,300 degrees F for prolonged periods, catalysts and converter components begin to melt. The result is a gradual and usually permanent degradation in performance.

High Converter Temperatures Spell Trouble

A converter temperature can rise dramatically when an engine is badly malfunctioning or for some other reason producing an excessive amount of heat and pollutants. In such cases the catalyst temperature can exceed 2,000 degrees F. When this happens the converter becomes deactivated and conversion efficiency approaches zero.

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Parking*(Attachment #4 Collection #)*

Always use the parking brake when you park your vehicle. The indicator on the instrument panel shows that the parking brake is not fully released; it does not indicate that the parking brake is firmly set. Make sure the parking brake is set firmly or your vehicle may roll if it is parked on an incline.

If your vehicle has an automatic transmission, set the parking brake before you put the transmission in Park. This keeps the vehicle from moving and putting pressure on the parking mechanism in the transmission — making it easier to move the shift lever out of Park when you want to drive away.

If the vehicle is facing uphill, turn the front wheels away from the curb. If you have a manual transmission, put it in first gear.

If the vehicle is facing downhill, turn the front wheels toward the curb. If you have a manual transmission, put it in reverse gear.

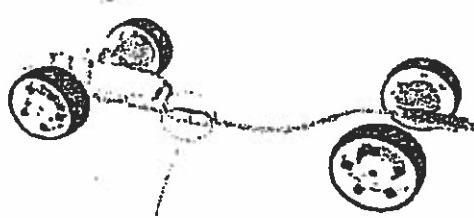
Make sure the parking brake is fully released before driving away. Driving with the parking brake partially set can overheat or damage the rear brakes.

Parking Tips

- Make sure the moonroof and the windows are closed.
- Turn off the lights.
- Place any packages, valuables, etc., in the cargo area or take them with you.
- Lock the doors and the tailgate with the key or the remote transmitter.
Make sure the hatch glass is closed securely.
- Never park over dry leaves, tall grass, or other flammable materials. The three way catalytic converter gets very hot, and could cause these materials to catch on fire.

*Attachment #5**Civil Action-71*

presence of catalyst materials like – Platinum, Rhodium and/or Palladium. In a catalytic converter, large surface area is provided for the chemical reaction to take place and a very small amount of precious catalyst material is distributed throughout the structure in an ultra-thin layer. Catalytic reactions are generally exothermic, so heat-shields and temperature withstanding materials need to be used for its construction. Figure-1 shows the typical placement of a catalytic converter in an automobile.



Catalytic Converter

Fig 1. Location of Catalytic Converter in a typical car.

Generally speaking, catalytic converters are good post-engine emission controlling devices capable of achieving more than 90% reduction of the emissions generated by a well tuned modern engine [1]. However, it should be noted that, this level of performance from a catalytic converter can be only expected, when a number of prerequisites are met. For a catalytic converter to function effectively, it is essential that the proper chemistry and operating temperature be present. These factors are critical to consider when retrofitting a converter on a vehicle which was not originally designed or equipped for its use. These generally include vehicles produced till late 80's in Japan and European countries and till early 80's in USA, many of which are still used in developing countries [2].

Catalytic converters operate under complicated highly dynamic conditions and catalytic reactions occur at typical exhaust gas temperatures leaving the cylinder. This in warmed-up gasoline engines, can vary from 300°C to 400°C during idle, raising even up to about 1000°C, depending on the driving conditions. Different engines possess different warm-up characteristics from cold-start as well. These catalytic reactions depend on the temperature and the composition of the exhaust gas. The activity of the catalyst as a function of its temperature is a critical feature of the catalyst's performance and is affected by a number of exothermic reactions. When the engine is started, the exhaust gas gradually heats up to initiate the catalytic reactions, once the "light-off" (typically reaching 50% conversion efficiency) temperature is reached. NOx efficiency remains very high regardless of temperature. However, CO and HC efficiency varies significantly with temperature. As temperature increases CO oxidation reactions typically start first, followed then by HC oxidation[3,4]. Hence the placement of the converter in the exhaust system relative to the engine is important to

ensure that the exhaust temperature is sufficient for the operating range of the catalyst as suggested from figure 2a. On the other hand, if the converter is too close to the engine, it may be exposed to excessive temperature damaging the catalyst [5].

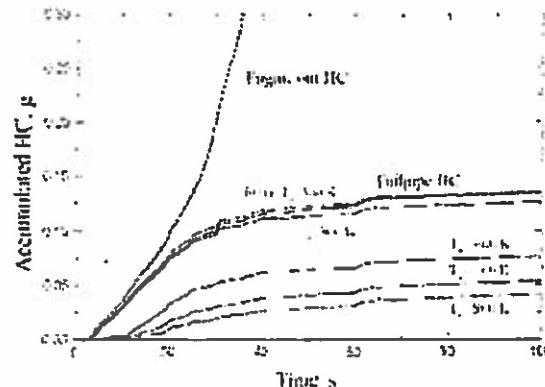


Fig 2a. Effect on HC emission in a FTP cycle as a function of CC start temperature [6].

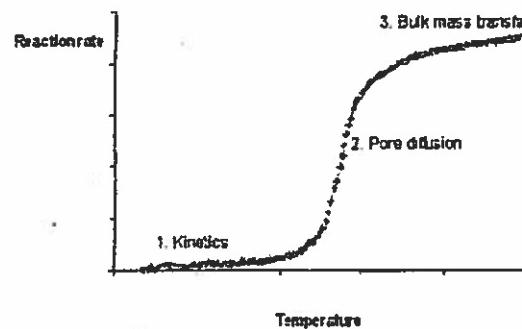


Fig 2b. Typical conversion regimes for controlling CC conversion rate as a function of temperature [7].

Figure 2b presents, a typical activity plot. At low temperatures, the reaction rate is so small that no conversion is reached over the catalyst. In this stage, the reaction kinetics is the controlling factor for the overall reaction rate, whereas in the second stage, the conversion is limited by the pore diffusion in the wash-coat. Catalyst light-off typically occurs in this temperature range. The high temperature region corresponds to bulk mass transfer between the gas phase and wash-coat [7].

Thermocouples(TC) are still the most reliable way of exhaust gas temperature measurement, if exposed to the gas. Unfortunately this is not very convenient to measure the temperature of automotive exhaust passing through the piping. Resistance temperature detectors(RTD) in addition may cause significant disturbances to exhaust flow. To overcome these limitations a number of other techniques are being employed [8]. Infra-Red(IR) sensors are being used to estimate internal exhaust temperature from pipe surface IR measurements [9], systems with high accuracy are expensive. High-temperature stable air borne ultrasonic sensors have been successfully used for exhaust gas

SUPERIOR COURT
OF THE DISTRICT OF COLUMBIA
WASHINGTON, D.C. 20001

OFFICIAL BUSINESS
PENALTY FOR MISUSE



GENERAL MOTORS LLC
Serve: Corporation Service Company
1090 Vermont Avenue, NW
Washington, DC 20005

2000534505 0030 [REDACTED]

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

Lawrence M. Elliott)	LET THIS BE FILED.
Celestine V. Elliott, et al)	HONORABLE KETANJI BROWN JACKSON
620 Nicholson Street NW)	U.S. DISTRICT JUDGE
Washington DC, 20011-2020)	SJP (2014)
202-744-5443)	
Plaintiffs)	Civil Action No.: 14-0001980
)	Civil Action No.: 14-691
 v.		Judge K. B. Jackson
)	
)	We Demand A Trial By:
General Motors, LLC)	Six Person Jury
400 Renaissance Center)	
Detroit, MI 48625)	
Defendant)	

Lawrence M. Elliott and Celestine V. Elliott, husband and wife for many years and family hereafter called WE, come before this Honorable Court for justice in a matter dealing with General Motors Corp. hereafter known as GMC . We are asking for the original cost plus all interest paid for the 2006 Trailblazer SS and the Chevy Cobalt SS about eighty thousand dollars (\$80,000.00) and five hundred thousand dollars (\$500,000.00) for punitive damages both bought new from Curtis Chevrolet located in Washington, DC, now no longer in existence. Five hundred eighty thousand dollars (\$580,000.00).

RECEIVED

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MAY - 2 2014

Clerk, U.S. District and
Bankruptcy Courts

We are also asking for immediate relief in this matter forthwith in the form of two vehicles provided by GMC at their expense for our transportation until this issue is resolved. WHY? If GMC replaced the fuel pump in our Cobalt SS with the same design that split open, it could happen again with catastrophic results, such as the lose of life and/or serious injury. GMC should be made to declare what was used by this Court ,as soon as possible, so no one will be put in danger. This may well be another recall before someone has to die first or be hurt. We had no idea that we would find both by failure of major systems and other problems that GMC knew of. This problem that could have killed us or still others should be addressed immediately. GMC should be stopped from using old part numbers after fixed issues because it keeps one from knowing if it is the broken one and is safe to use. This was found to be what they did and has been documented. First the Cobalt was known to have problems with the ELECTRIC POWER STEERING that could render the car incapable of being steered or the air bags from deploying. This was fixed under a recall #10V073000.

The Electric Power Steering on the Cobalt failed to assist on two occasions while we were parking and was recalled # 10V073000 and fixed at Sport Chevrolet in Silver Springs Maryland.

We had a gasoline odor, while driving the "Cobalt" that started as a sporadic odor and finally to a puddle of gas on the ground in 2011. This was over about a few weeks period of time. Had we known it was from our car we would have stopped right away.

When we found a puddle of gas on the ground beneath our car we made a closer look and found It was coming from the top of our gas tank. We contacted GM and was told there was a recall only in listed States, NOT OURS. "This was confirmed on the Internet".

We then had an in depth conversation with GM about the gas leak. They agreed to fix our "Cobalt" which they did on 8/31/2011 at no cost to us. Recall #09V419000. GM LLC named some States they would recall only. WE did not and do not live in any of the States named. If they have not yet as of 4/28/14 notified all owners of vehicles named in this recall, #09V419000, we Respectfully ask in this action that GM LLC be made by this Court and The National Highway Traffic Safety Administration to do so forthwith to protect all of us.

We learned that GMC /GM LLC was not only aware of these problems as early 2002 and covered them up. This was Wanton, Reckless, Deceptive and Fraudulent behavior that could have killed us or anyone. We began to take a closer look at what We had and were finding.

It was not until this year, 2014 that these issues changed from, "problems found and some addressed" to a legal issue of Fraud, Reckless Wanton Behavior on behalf of both GMC, GM LLC and anyone who failed to see that even the "Bankrupt/Reorganizing that was called LEGAL did not consider the laws that were broken because hey to were deceived and kept what they had known for over ten years from the Court.

When we discovered part numbers were not changed when parts were redesigned or changed that sent a flag up on our Cobalt's Ignition Switch Assembly and Fuel Pump Assembly replacement. QUESTION? Were the replacements the same one that failed. It appears the parts numbers did not change. Who made it? How many different versions did they have? What was used in our replacements? What if we drove to or through or even moved to one of the listed States then what?

Considering how close the leak was to the Catalytic Converter that operates at temperatures

up to about 1000 degrees F and more. This was/is a total disregard for the owners and others and is Wanton, Reckless, Deceptive and Fraudulent behavior by GMC/GM LLC.

Our "TB" cut off on my wife twice within a few blocks almost causing her to have an accident because the engine turned off with no warning causing the power steering to stop operating ("TB" power steering is driven by a pump operated when the engine runs only).

Each time it happened she was in the middle of turning. I checked the "TB" and found a check engine light on and a OBD PO121 fault read out from the OBD Port.

Bad connection to the "TPS" that I cleaned along with a sticking TP.

These two things WE found probably caused it and WE corrected it. The check light turned off and the "TB" went through inspection and has not shown any OBD fault light since.

We use the "TB" to take and bring our grandchildren to and from school etc. this we stopped for their safety immediately after it cut off.

Since GMC AND GM LLC knew their ('TB") vehicle(s) would rust that much in an area/place that does not get that much rain or snow they should have made it so it would not or said when it starts to rust get rid of it, for it will not be reliable or safe to drive.

They did neither. I would not have bought them if they told me what they knew.

Rust is a problem in many GM products even causing the brake lines to fail. NO Brakes!

We are afraid for our safety not knowing what else they may know and have not told us. "Or Even Congress"

TRUST

Did GM LLC use the PEOPLES money to CHANGE their name from GMC and keep the same people who caused this to begin with? They (ALL OF THEM) SHOULD BE MADE TO PAY all of US what we paid them for the FRAUD perpetrated on us. This is our formal request of this Honorable Court. IF not, we have no laws, just a game played on us by those who are "Persons".

I saw the Pump Assembly they removed from our Cobalt (Looks like plastic) and never thought they MAY have replaced it with the same one that failed. "DID THEY?) Any reasonable person would think they would have changed the design that failed.

It was not until 2014 when I began to find all of the complaints on the Cobalt and part numbers left unchanged so you would not know what you have that I began to try to find out what they replaced it with.

If they did not change to one that would not crack and leak, This should be a recall and a reason for this Honorable Court To Rule they should be made to pay Punitive Damages also. I want all the money we paid to GMC and GM LLC returned to us for this is Reckless, Wanton, Deceptive Fraud, they should not be permitted to keep a cent.

We Would Not Have Bought Either of these Vehicles had they told the truth about them.

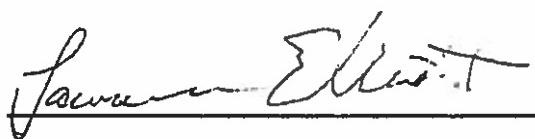
They should also be forced to pay Punitive damages to us and others for

endangering our lives knowingly.

\$80,000.00 for cost plus interest, about \$51,000.00 for the Tb full list and \$24,000.00 for Cobalt full list plus interest and \$500,000.00 punitive.

Respectfully submitted

Lawrence M. Elliott



Celestine V. Elliott



Plaintiffs in this matter

